

7 DE Admin Code 1138
Section 8

Emission Standards for Halogenated Solvent Cleaning



Public Workshop
June 28, 2011

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Key Definitions

Hazardous air pollutants (HAPs) are any air pollutant listed in or pursuant to Section 112(b) of the Act. HAPs are also called air toxics. **Methylene chloride, perchloroethylene, and trichloroethylene** are listed in Section 112(b).

Affected source is, for the purposes of Regulation 1138, the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a Section 112(c) (of the Clean Air Act) source category or subcategory for which a Section 112(d) (of the Clean Air Act) standard or other relevant standard is established pursuant to Section 112 of the Act.

Affected facility is, for the purposes of 8.0 of this regulation, **all solvent cleaning machines** subject to 8.0, **except** for the following.

- Solvent cleaning machines used in the manufacture or maintenance of aerospace products.
- Solvent cleaning machines used in the manufacture of narrow tubing.
- Continuous web cleaning machines, located at a major source that is subject to the facility-wide limits in 8.10.2.2 of this regulation.
- Cold batch cleaning machines, located at an area source that is subject to the facility-wide limits in 8.10.2.2 of Regulation 1138.

Exceedance is any instance in which the calculated emissions exceed an applicable emission limit.

Facility-wide exceedance is any instance in which **monthly calculation** of the facility-wide 12-month rolling total halogenated HAP solvent emissions for an affected facility exceeds the applicable facility-wide 12-month rolling total halogenated HAP solvent emission limit presented in Table 8-7 of Regulation 1138.

Acronyms

Admin Code	The Delaware Administrative Code
CFR	Code of Federal Regulations
DE	Delaware
DNREC	Department of Natural Resources and Environmental Control
EPA	United States Environmental Protection Agency
HAPs	Hazardous Air Pollutants
MACT	Maximum Achievable Control Technology
MeCl	Methyl chloride
NESHAP	National Emission Standard for Hazardous Air Pollutants
Perc	Perchloroethylene
Sub T	40 CFR Part 63 Subpart T
TCE	Trichloroethylene



- Handouts

- Key Definitions

- Acronyms



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A Brief History of the

Clean Air Act

and

Air Toxics Regulations



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1963

- Congress enacts the original Clean Air Act of 1963
- Establishes funding to
 - To develop a national program to address air pollution related environmental problems



First album released
3/22/63

AND



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1963

- Congress enacts the original Clean Air Act of 1963
- Establishes funding to
 - To conduct research into techniques to minimize air pollution



JFK Buried
11/25/63



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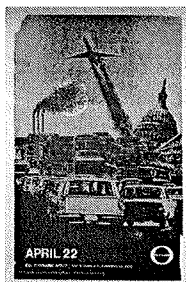
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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Environmental Protection Agency



12/2/70



First Earth Day
4/22/70



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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Authority to develop **NAAQS**

National
Ambient
Air
Quality
Standards

ABC debuts "MNF"
9/21/70



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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Requirements for **SIPs**

State
Implementation
Plans



Ra II sails Atlantic
5/17 to 7/12/70



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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Authority to **NSPS**

New
Source
Performance
Standards



First women's only tournament
9/23/70

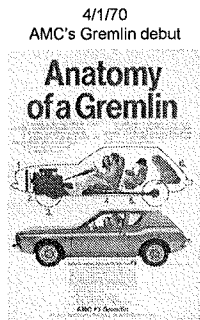


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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Requirements for control of motor vehicle emissions



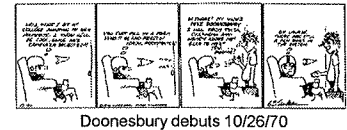
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1970

- Congress enacts a major extension of the Clean Air Act
- Establishing
 - Authority to develop NESHAPS

National
Emission
Standards for
Hazardous
Air
Pollutants



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1970 – 1990

- Development of NESHAPS

EPA's Mandate

- Identify toxic air pollutants (i.e. HAPs)
- Establish a numerical emission limits and promulgate standards that would protect human health from any adverse effects of hazardous air pollutants

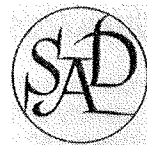


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1973 to 1990 NESHAP

- Seven HAPs identified
- 21 NESHAPS promulgated



	'73 – '80	'81 – '85	'86 – '90	'91 – '92
Arsenic			3	
Asbestos		1		
Benzene		1	4	
Beryllium	2			
Mercury	1			
Radionuclides			7	1
Vinyl chloride	1			



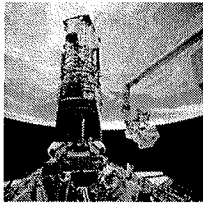
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1990

- Congress enacts amendments to the Clean Air Act that significantly changed how EPA develops and promulgates NESHAPs

Hubble launched 4/24/90

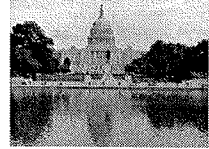


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Clean Air Act Amendments of 1990

- Congress identified 189 Hazardous Air Pollutants or HAPs



- Including . . .

- Trichloroethylene
- Methylene chloride
- Chloroform
- Perchloroethylene
- Carbon tetrachloride
- 1, 1, 1 Trichloroethane



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Clean Air Act Amendments of 1990

- Congress directed the EPA to identify emission sources of those 189 HAPs



- July 16, 1992 - EPA published its initial listing of source categories predominately found at major source facilities

- Including

- Halogenated solvent cleaners
(But EPA additionally included area sources, as well)

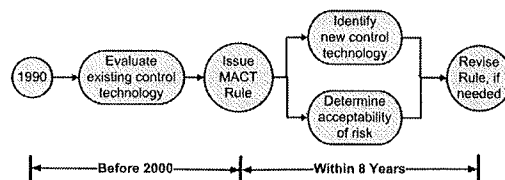


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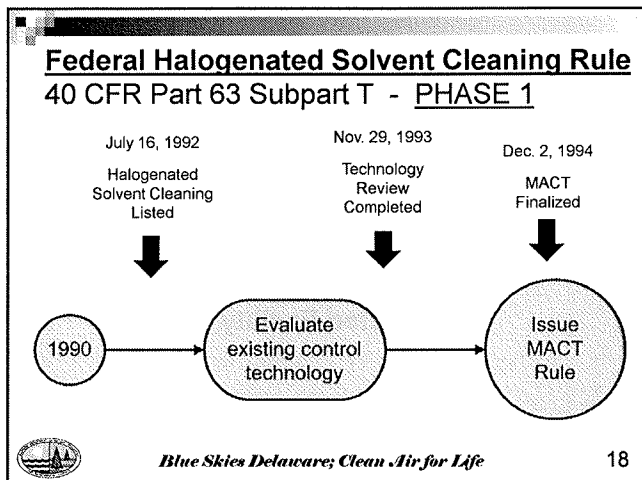
Clean Air Act Amendments of 1990

- Congress even prescribed EPA's rule-making "path forward"



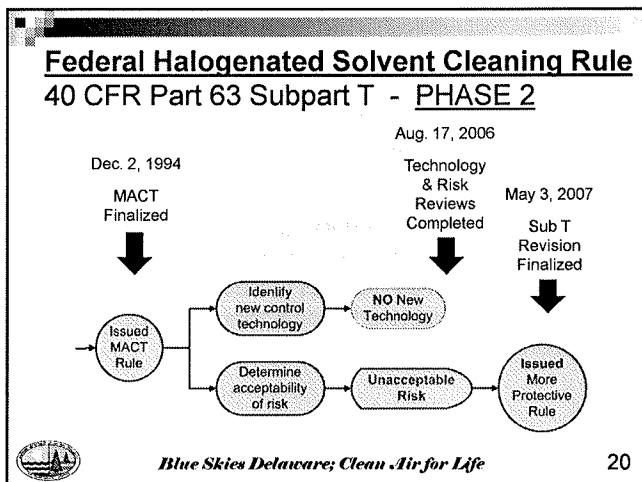
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**Which Brings
Us to
Tonight's
Public Workshop**

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Workshop Objectives

Address the following - - -

- NO changes to the current "MACT" requirements
- New requirements to address unacceptable risk
 - New "affected facility" concept
 - Applicability – who is subject / who is exempt
 - Compliance dates (Federal / Delaware)
 - New facility-wide emissions limits
 - Demonstrating compliance with facility-wide emission limit

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Workshop Objectives

Address the following - - - (Cont'd)

- New requirements to address unacceptable risk
 - The notification requirements
 - The reporting requirements
 - The recordkeeping requirements
- Regulatory path forward
- Regulatory web page



New Terminology Introduced

Affected Source

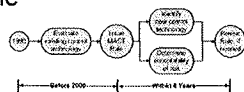
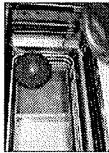
Versus

Affected Facility



What is an "affected source" ?

- Affected source means a collection of equipment, activities, or both . . . for which a . . . relevant standard is established pursuant to Section 112 of the Act.
- Affected source has traditionally referred to the sources of HAP emissions subject to EPA air toxics rules adopted under the 2-phase process prescribed by Congress in 1990



What is an "affected facility" ?

- ~~Affected facility has traditionally referred to any apparatus to which a Part 60 standard is applicable.~~
- In Section 8 (as in federal Subpart T), affected facility becomes mechanism to identify those "affected sources" subject to Section 8 (Sub T) that are subject to additional requirements recently finalized



What is an "affected facility" ?

- For the purposes of Section 8, "affected facility" means all solvent cleaning machines subject to 8.0, except for the following
 - Cleaning machines used in the manufacture or maintenance of aerospace products
 - Cleaning machines used in the manufacture of narrow tubing



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What is an "affected facility" ?

- For the purposes of Section 8, "affected facility" means all solvent cleaning machines subject to 8.0, except for the following
 - Continuous web cleaning machines, located at a major source
 - Cold batch cleaning machines, located at an area source that is subject to a facility-wide limits.



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New emission limits

TCE MeCl
 Perc Perc / TCE / MeCl
 Facility-wide 12-month rolling total solvent emission limits applicable to affected facilities



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What are the emission limits ?

Facility-wide 12-month rolling total emission limits	
Solvent emitted	General population solvent cleaning machines (kilograms per rolling 12 months)
Perc only	4,800
TCE only	14,100
MeCl only	60,000
Multiple solvents - Calculate in MeCl equivalents	60,000



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What are the emission limits ?

Facility-wide 12-month rolling total emission limits	
Solvent emitted	Military Depot Maintenance solvent cleaning machines (kilograms per rolling 12 months)
Perc only	8,000
TCE only	23,500
MeCl only	100,000
Multiple solvents - Calculate in MeCl equivalents	100,000

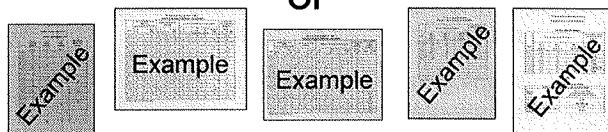


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Compliance Demonstration

Or



How to show that the
Affected Facility's Emissions
Don't Exceed the
Facility-wide Emission Limits



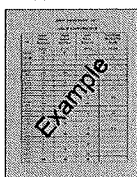
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Compliance Demonstration Requirements

For each solvent cleaning machine subject to a facility-wide emission limit - - -

- Record "clean" solvent additions
- Record liquid solvent deletions
- Record solid waste deletions
- Determine the overall solvent content of solid wastes deleted on a monthly basis by either
 - Method 25d in Appendix A of 40 CFR Part 60
 - Engineering calculations



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Compliance Demonstration Requirements

On the first operating day of each month - - -

- Ensure that each cleaning machine contains only "clean" solvent
- Ensure that the solvent level of each cleaning machine is "even" with the established "fill line"
- Determine whether a facility-wide "exceedance" occurred during the prior month

Exceedance = Emissions > Emissions limit



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Compliance Demonstration Requirements

On the first operating day of each month - - -

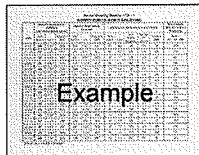
- Determine the total HAP solvent emissions (Eunit) for the most recent month using Equation 8-10 for each cleaning machine

$$E_{unit} = S_{Ai} - L_{SRi} - S_{SRi} \quad (\text{Eq. 8-10})$$

S_{Ai} = Liquid solvent added

L_{SRi} = Liquid solvent deleted

S_{SRi} = Solvent removed with solid waste



Example



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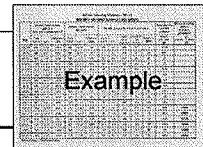
Compliance Demonstration Requirements

On the first operating day of each month - - -

- Determine the 12-month rolling total HAP solvent emissions (ETunit) for the most recent 12 months using Equation 8-11 for each cleaning machine

$$E_{Tunit} = \sum_{j=1}^{12} E_{unit} \quad (\text{Eq. 8-11})$$

E_{unit} = Total HAP solvent emissions from the cleaning machine for each month, j, for the most recent 12 months



Example



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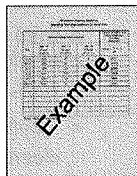
Compliance Demonstration Requirements

On the first operating day of each month - - -

- Determine the facility-wide 12-month rolling total HAP solvent emissions (ETfacility) for the most recent 12 months using Equation 8-12

$$E_{Tfacility} = \sum_{j=1}^{12} E_{Tunit} \quad (\text{Eq. 8-12})$$

E_{Tunit} = 12-month rolling total HAP solvent emissions for the most recent 12 months for each affected cleaning machine



Example



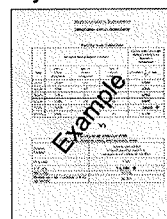
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Compliance Demonstration Requirements

On the first operating day of each month - - -

- Compare the facility-wide 12-month rolling total HAP solvent emissions (ETfacility) to the applicable facility-wide emission limit in Table 8-7



Example

Note

An exceedance of the facility-wide 12-month rolling total HAP solvent emission limit occurred in August 2011



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Reports

Notifications

What are the paperwork requirements?

Recordkeeping


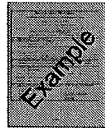



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What are the NEW notification requirements?

- Initial notification
- Initial statement of compliance

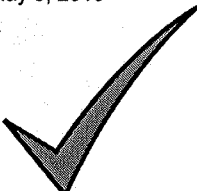





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Initial Notification

- Submit the "Initial Notification" no later than November 11, 2011, if affected facility had its initial startup on or before May 3, 2010
- Submit the "Initial Notification" by the later of November 11, 2010 or 120 days after initial start-up, if the affected facility had its initial startup after May 3, 2010
- Submittal is optional, IF the owner submitted the Federal Sub T "Initial Notification" to EPA by May 3, 2010 and sent a copy to the Department






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Initial Notification

- The "Initial Notification" must contain the following:
 - Name and address of the owner or operator
 - Physical location of the affected facility
 - Brief description of each cleaning machine including, at minimum, machine type, solvent/air interface area, and type(s) of controls
 - Installation date of each cleaning machine
 - Estimate of the annual HAP solvent consumption for each cleaning machine

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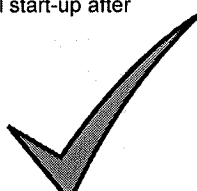
Initial Statement of Compliance

- Submit the "Initial Statement of Compliance" no later than November 11, 2011, if affected facility had its initial start-up on or before May 3, 2010
- Submit the "Initial Statement of Compliance" the later of November 11, 2010 or 13 months after initial start-up, if the affected facility had its initial start-up after May 3, 2010
- Submittal is optional, IF the owner submitted the Federal Sub T "Initial Statement of Compliance" to EPA before November 11, 2011 and sent a copy to the Department



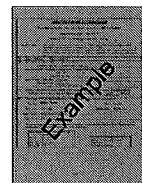
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Initial Statement of Compliance

- The "Initial Statement of Compliance" must contain the following:
 - Name and address of the owner or operator
 - Physical location of the affected source
 - Results of the first facility-wide 12-month rolling total HAP solvent emissions calculation
 - Attached engineering calculations, if calculations (not Method 25d) are used to determine solvent content of the solid waste removed

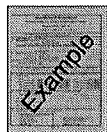


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What are the NEW reporting requirements?

- **Annual Solvent Emissions Report**
- **Facility-wide Exceedance Report**

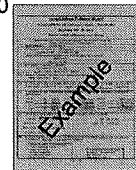


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Annual Solvent Emissions Report

- Annual solvent emissions report covers the calendar year (Jan. 1 to Dec. 31)
- Submit the annual solvent emissions report no later than Feb. 1 following the end of the reporting period
- Submittal may be combined with the annual reports required under 8.9.6 and 8.9.7 of Section 8.0
- Submittal must contain the following:
 - The average monthly HAP solvent consumption for the affected facility
 - The 12 monthly calculated facility-wide 12-month rolling total solvent emission estimates



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Facility-wide Exceedance Report

- Initially, semi-annual facility-wide exceedance report are required (Jan. thru June & July thru Dec.)
- After a facility-wide exceedance occurs, quarterly facility-wide exceedance reports are required
- Submit the facility-wide exceedance report no later than 30 days following the end of the reporting period

What is a facility-wide exceedance?

A facility-wide exceedance has occurred when the facility-wide 12-month rolling total HAP solvent emission (calculated using Equation 8-12) exceeds the applicable facility-wide 12-month rolling total HAP solvent emission limit presented in Table 8.7 of Regulation 1138.



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Facility-wide Exceedance Report

- Submittal must contain the following:
 - Statement as to whether a facility-wide exceedance
 - occurred or
 - did not occur
 during the reporting period
 - If a facility-wide exceedance occurred,
 - Month(s) of the exceedance(s)
 - Cause of the exceedance(s)
 - Description(s) of the corrective actions taken



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Where are the Notifications/Reports Sent?



Delaware DNREC
Director of Air Quality
Blue Hen Corporate Center
655 S Bay Road, Suite 5N
Dover, DE 19901



With a copy to
U. S. Environmental Protection Agency
Director, Air Protection Division
1650 Arch Street
Philadelphia, PA 19103



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What are the recordkeeping requirements?



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Recordkeeping

- For each cleaning machine, the records documenting the
 - Dates and amounts of solvent that is added
 - Dates and amounts of liquid solvent that is removed
 - Dates and amounts of solid waste that is removed
 - Solvent composition of wastes removed
 - All calculation sheets used to determine the monthly facility-wide 12-month rolling total HAP solvent emission
- Records must be kept for 5 years

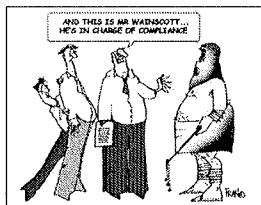


Miscellaneous Items



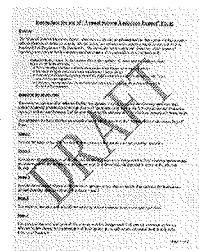
When must a facility be in compliance?

- Affected facilities that had initial startup on or before May 3, 2010 must be in compliance no later than November 11, 2011
- Affected facilities that had initial startup after May 3, 2010 must be in compliance not later than November 11, 2011 or upon initial startup, whichever is later



Compliance Assistance Tools Available

- Initial Notification
- Initial Statement of Compliance
- Annual Solvent Emissions Report
- Facility-wide Exceedance Report



www.awm.delaware.gov/Info/Regs/Pages/Section8.aspx



Expected Path Forward

- Publish proposed regulation in Delaware Register of Regulation – August 1, 2011
- Public hearing – Dover – August 24, 2011
- Publish final regulation in Delaware Register of Regulation – November 1, 2011
- Regulation effective date – November 11, 2011



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For More Information on Section 8

- Contact Jim Snead
 - (302) 323-4542
 - james.snead@state.de.us



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For the latest information,
follow the ongoing development on

Section 8 Regulatory Web Page

www.awm.delaware.gov/Info/Regs/Pages/Section8.aspx



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